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TITLE : PRODUCTION OF ALLOYED ZN-MG VAPOR DEPOSITION-COATED STEEL SHEET

ABSTRACT : PURPOSE: To obtain an alloyed Zn-Mg vapor deposition-coated steel sheet with Fe diffused to the surface of a plating layer and excellent in workability and corrosion resistance.

X CONSTITUTION: A continuously traveled steel strip with the surface cleaned is introduced into a vacuum chamber, in a reducing or inert atmosphere, deposited with Mg at  $\geq 100^{\circ}\text{C}$  and then with Zn. An alloying heat treatment is applied to the strip immediately after leaving the vacuum chamber at  $330-600^{\circ}\text{C}$  for  $\leq 10\text{sec}$  in an inert atmosphere or in the atmosphere so that the Fe is diffused from the substrate steel to the plating layer surface. The Zn-plated strip is held at  $200-400^{\circ}\text{C}$  for 1-25hr by using a heating furnace independent of the vacuum chamber to apply alloying heat treatment. Otherwise, the strip before Mg vapor deposition is kept at  $\geq 100^{\circ}\text{C}$ , the temp. is controlled so that the Zn-deposited strip is kept at  $330-500^{\circ}\text{C}$ , and alloying heat treatment is conducted by the sensible heat of the strip.

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